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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,738	04/06/2001	Richard Hans Harvey	063170.6797	6701
5073 7590 05/22/2007 BAKER BOTTS L.L.P. 2001 ROSS AVENUE SUITE 600 DALLAS, TX 75201-2980			EXAMINER FLEURANTIN, JEAN B	
			ART UNIT 2162	PAPER NUMBER
			NOTIFICATION DATE 05/22/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 09/827,738	Applicant(s) HARVEY, RICHARD HANS	
	Examiner JEAN B. FLEURANTIN	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/3/7 & 3/23/7</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This is in response to the amendment filed on 02/13/07.

The following is the status of claims:

Claims 1-28 remain pending for examination.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 1/03/07 and 3/23/07. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As set forth in MPEP 2106:

As per independent claim 1

The independent claim 1 is directed to a method of arranging data in a database, in which creating a first table adapted for storing data comprising at least one data entry, and creating a second table storing the plurality of data components of the data entry of the first table. Therefore, the mechanism for using an SQL product so that the system can achieve the scalability and performance inherent in relational systems coupled with the stability as the purpose of the invention. The claimed subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally occurring article/phenomenon) since it fails to produce a useful and tangible result.

As per independent claim 8

The independent claim 8 is directed to a database having data storage arrangement, in which a search table comprising at least one row having a plurality of columns, each column of the at least one row storing a data component. Therefore, the mechanism for using an SQL product so that the system can achieve the scalability and performance inherent in relational systems coupled with the stability as the purpose of the invention. The claimed subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally occurring article/phenomenon) since it fails to produce a useful and tangible result.

As per independent claim 13

The independent claim 13 is directed to a database having data storage arrangement, in which a first table directed to a hierarchy which defines a relationship between a plurality of objects and configured to have one row per object, and a second table directed to the plurality of objects of the first table, the second table defining one or more values within each of the plurality of objects of the first table. Therefore, the mechanism for using an SQL product so that the system can achieve the scalability and performance inherent in relational systems coupled with the stability as the purpose of the invention. The claimed subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally occurring article/phenomenon) since it fails to produce a useful and tangible result.

As per independent claim 14

The independent claim 14 is directed to a directory services system, for performing directory service requests on a database, in which creating a first table adapted for storing data comprising at least one data entry, and creating a second table storing the plurality of data components of the data entry of the first table. The claimed steps are not being performed by any form of computer hardware component. Therefore, the mechanism for using an SQL product so that the system can achieve the scalability and performance inherent in relational systems coupled with the stability as the purpose of the invention. The claimed, "directory services system" fails to fall with one of four statutory categories of invention, process,

machine, manufacture and composition, since it fails to produce a useful and tangible result.

As per independent claim 18

The independent claim 18 is directed to a directory services system having a data storage arrangement, in which creating a first table adapted for storing data comprising at least one data entry, and creating a second table storing the plurality of data components of the data entry of the first table. The claimed steps are not being performed by any form of computer hardware component. Therefore, the mechanism for using an SQL product so that the system can achieve the scalability and performance inherent in relational systems coupled with the stability as the purpose of the invention. The claimed, "directory services system" fails to fall with one of four statutory categories of invention, process, machine, manufacture and composition, since it fails to produce a useful and tangible result.

Furthermore, the claim lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor a composition of matter. As such, the claim fails to fall within a statutory category. It is, at best, functional descriptive material per se.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were

unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

And all dependent claims are rejected under the same rational.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, 14-17 and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over C.M.R. Leung, "An object-oriented approach to directory systems - 1990 - pages 736-740" ("Leung") in view of J. Rumbaugh et. al., "Object-Oriented Modeling and Design" - 1991 - pages 366 - 396" ("Rumbaugh").

As per claims 1 and 14, Leung discloses "a method of arranging data in a database" (page 736, col. 1, paragraph 4) comprising:

"creating a first table adapted for storing data" (i.e., the DIT table holds (storing) the information of the structure of the DIT; see Fig. 6 table DIT; page 739, col. 1, paragraph 1, lines 3-4) comprising at least one data entry" (i.e., attribute type; see page 739, col. 1, paragraph 1, line 10), "the data entry comprising a plurality of data components" (i.e., entry is made up of attributes, each with a type and more values; see page 737, col. 1, paragraph 2, lines 5-6), "the first table comprising one row for each entry" (see Fig. 6 DIT); and

"second table comprising one row for each of the plurality of data components" (i.e., entry is made up of attributes, each with a type and more values; see Fig. 6, ENTRY; page 737, col. 1, paragraph 2, lines 5-6). Leung fails to explicitly disclose creating a second table storing data components and having one row for each component of the data. However, Rumbaugh discloses creating a second table storing

data components and having one row for each component of the data (see Rumbaugh Figs. 17.12 and 17.13, pages 380-381, paragraph 17.3.5). It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the method of Leung by creating a second table storing data components and having one row for each component of the data as disclosed by Rumbaugh (see Rumbaugh Fig. 17.2, page 370, paragraph 17.2.3 and Fig. 17.16). Such a modification would allow the method of Leung to provide an excellent basis for modeling object oriented data base management system (DBMS) (see Rumbaugh page 388, paragraph 17.5), therefore, improving the performance of the directory searching methods and system.

As per claims 2 and 15, Leung discloses "the data is a structured data type" (i.e., attribute type; see page 739, col. 1, paragraph 1, line 10).

As per claims 3 and 16, Leung discloses "the data is a string data type" (i.e., attribute type; see page 739, col. 1, paragraph 1, line 10).

As per claim 4, Leung discloses "the data is or represents a X.509 certificate" (i.e., DSEP decodes the request and passes the decoded request in the form of Directory Abstract Services with the appropriate parameters to DOP; see figure 2, page 737, col. 2, paragraph 5).

As per claims 5 and 26, Leung discloses "a selected one of the data components is a checksum or fingerprint " (i.e., a means for collecting the results; see page 738, col. 1, paragraph 1).

As per claims 6 and 23, Leung discloses "where the database is a pm of an electronic directory services system" (i.e., the database systems used form an indispensable part of the directory systems; see page 736, col. 1, paragraph 4, lines 4-5).

As per claims 7 and 24, Leung discloses "where the electronic directory services system comprises an X.500 and LDAP services system" (i.e., a directory (X.500) consists of one or more distributed Directory System Agents where directory information is kept and user requests are proposed, the DIT and DIB are partitioned and distributed in these DSAS each DSA also holds knowledge of the distribution of the DIT all requests in the form of directory abstract services from directory users must be submitted through Directory User Agents acting as the interface between the users; see Fig. 2 page 737, paragraphs 2 and 3).

As per claim 8, Leung discloses "a database having a data storage arrangement" (see page 739, col. 1, paragraph 1, line 2) "comprising a search table" (see page 739, col. 1, paragraph 2) "comprising at least one row having a plurality of columns" (i.e., wherein the DIT and ENTRY stored as two relational tables the DIT table holds the information of the structure of the DIT; see page 739, col. 1, paragraph 1), "each column of the at least one row storing a data component" (i.e., each record contains (storing) the system identifier of that of its object that of its parent and its RDN; see page 739, col. 1, paragraph 1); and

"a subsearch table" (see page 739, col. 1, paragraph 2) "comprising one row for each data component of the search table" (i.e., wherein the DIT and ENTRY stored as two relational tables the DIT table holds the information of the structure of the DIT; see page 739, col. 1, paragraph 1), "each row having a plurality of columns" (i.e., the ENTRY table holds detailed information about each directory object, each record holds the system identifier of an object and an attribute value of an attribute of the object in both normalized (see page 739, col. 1, paragraph 1).

Leung fails to explicitly disclose including a component identifier column configured to be used as a search index for searching data components in the at least one row of the search table. However, Rumbaugh discloses a component identifier column configured to be used as a search index for searching data components in the at least one row of the search table (see Rumbaugh Figs. 17.7 and 17.16 page 383, paragraph 1 to page 384, paragraph 1). It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the method of Leung by including a

component identifier column configured to be used as a search index for searching data components in the at least one row of the search table as disclosed by Rumbaugh (see Rumbaugh Fig. 17.7). Such a modification would allow the method of Leung to provide an excellent basis for modeling object oriented data base management system (DBMS) (see Rumbaugh page 388, paragraph 17.5), therefore, improving the performance of the directory searching methods and system.

As per claims 9 and 10, in addition to claim 8, Leung further discloses "the columns of the search table are in the form "ED, AID, VID, Norm", where EID identifies an object to which a value belongs, AID identifies an attribute type of the value, and VID identifies one of a possible number of attribute values in the one entry" (i.e., the ENTRY table holds detailed information about each directory object, each record holds the system identifier of an object and an attribute value of an attribute type (see Fig 6 page 739, col. 1, paragraph 1).

As per claim 11, in addition to claim 8, Leung further discloses "a subattribute table containing at least one row having a plurality of columns in which a description or reference to the subsearch table is provided" (i.e., the ENTRY table holds detailed information about each directory object, each record holds the system identifier of an object and an attribute value of an attribute type (see Fig 6 page 739, col. 1, paragraph 1).

As per claim 12, in addition to claim 11, Leung discloses "the columns of the subattribute table are in the form "CID, SYN, DESC, OBJECT ID, FLAGS" (see Fig. 6).

As per claims 13 and 18, in addition to claim 1, Leung fails to explicitly disclose a third table directed to one or more selected components of the one or more values of the second table and configured to have one for each component of each of the one or more values. However, Rumbaugh discloses a third table directed to one or more selected components of the one or more values of the second table and configured to have one for each component of each of the one or more values (see

Rumbaugh Fig. 17.16 and page 383, paragraph 1 to page 384, paragraph 1). It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the method of Leung by a third table directed to one or more selected components of the one or more values of the second table and configured to have one for each component of each of the one or more values as disclosed by Rumbaugh (see Rumbaugh Fig. 17.19). Such a modification would allow the method of Leung to provide an excellent basis for modeling object oriented data base management system (DBMS) (see Rumbaugh page 388, paragraph 17.5), therefore, improving the performance of the directory searching methods and system.

As per claim 17, Leung discloses "an X.500 or LDAP directory services system" (i.e., X.500; see page 736, col. 1, paragraph 4).

As per claim 19, Leung discloses "the data is a structured data type" (i.e., attribute type; see page 739, col. 1, paragraph 1, line 10).

As per claim 20, Leung discloses "the data is a string data type" (i.e., attribute type; see page 739, col. 1, paragraph 1, line 10).

As per claim 21, Leung discloses "an X.500 or LDAP directory services system" (i.e., X.500; see page 736, col. 1, paragraph 4).

As per claim 22, in addition to claim 1, Leung further discloses "a method of searching a database for given data entries" (see page 738, col. 1, paragraph 4);

"identifying a component identifier indicating a data type that is associated with the component of the first table" each record holds the system identifier of an object and an attribute value of an attribute type of the object in both normalized and raw form (see page 739, col. 1, paragraph 1);

"using the component identifier indicating the data type to execute one of an exact or initial matching on a column of a second table in order to locate the component in the second table" (i.e., record

contains the system identifier of an object and the RDNs are coded in such a way that matching them can be done efficiently (see page 739, col. 1, paragraph 1); and

"returning the given data entry from the first table matching the component located" (i.e., returning details of ENTRYs satisfying search conditions; see page 739, col. 1, paragraph 2).

As per claim 25, in addition to claim 4, Leung discloses "the data is or represents one or more of the following: a X.500 certificate, and a check sum of the data and or a fingerprint of the data" (see page 736, col. 1, paragraph 4).

As per claim 27, the limitations of claim 27 are similar to claim 5, therefore, the limitations of claim 27 are rejected in the analysis of claim 5, and, this claim is rejected on that basis.

As per claim 28, Leung further discloses "components of the checksum or fingerprint are searched" (i.e., means for collecting the results it passes them to DSEP in the form of directory abstract services results (see page 738, col. 1, paragraph 1).

Response to Applicant' Remarks

Applicant's arguments, filed 2/13/07, with respect to the rejection(s) of claim(s) 1-28 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Rumbaugh.

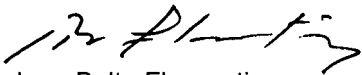
Since, claims 1-21 are non-statutory. Thus, a 35 U.S.C. 101 non-statutory rejection of claims is made.

CONTACT INFORMATION

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is 571 – 272-4035. The examiner can normally be reached on 7:05 to 4:35.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571 – 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jean Bolte Fleurantin

Patent Examiner

Technology Center 2100

April 30, 2007